

## **REMARKS**

Applicant is in receipt of the Office Action mailed October 9, 2007. Claims 10, 25-29, 33, 35, and 43 have been amended. Therefore claims 1-45 are pending in the application. Further consideration of the present case is earnestly requested in light of the following remarks.

## **SPECIFICATION OBJECTIONS**

The Office Action objects to the names of authors of references listed in Specification, especially on pages 1-3 and 10. However, Applicant respectfully notes that “Cahoon and McKinley” refers to the “Data Flow Analysis for Software Prefetching Linked Data Structures in Java” article authored by Cahoon and McKinley, previously submitted in the 2004 IDS. *See* reference no. 5 on p. 2 of the 3/14/2004 IDS. Similarly, Applicant respectfully notes that the references by “Wang et al.,” “J.T. Buck,” “Wauters et al.,” “Patt and Yeh,” “Buttazzo et al.,” and “Abdelzaher et al.” have been similarly submitted in the 2004 IDS. *See* pp. 2-4 of the 3/14/2004 IDS. Applicant furthermore submits an additional IDS that includes the Kahn and MacQueen reference.

Furthermore, the Office Action objects to three misspelling in the specification. Applicant has supplied replacement paragraphs to remedy these informalities, as specified by 37 CFR 1.121 and MPEP section 714(II)(B). Applicant submits that the above changes only correct informalities in the Specification to overcome the Office Action objections, and that no new matter has been added.

## **DRAWING OBJECTIONS**

The drawings stand objected to under 37 CFR 1.84(p)(5) for not including some reference characters mentioned in the description. Specifically, the Office Action states that in Figure 7, elements 12A, 20A, and 59 have not been located in the specification. The Applicant has amended Figure 7 to delete reference to element 59, and has provided a replacement paragraph in the specification to fully comply with the Office Action regarding elements 12A and 20A of Figure 7. Furthermore, the Office Action states that in Figure 8, element 20 has not been located in the specification. The Applicant has

provided a replacement paragraph in the specification to fully comply with the Office Action regarding element 20 of Figure 8.

Applicant submits that the above changes to the Specification only correct informalities in the Specification to overcome the Office Action objection, and that no new matter was added. Applicant respectfully submits that the Drawings have been corrected in compliance with 37 CFR 1.121(d).

Thus, Applicant respectfully submits that the Drawings are in compliance with 37 CFR 1.84(p)(5). Therefore removal of the objection under 37 CFR 1.84(p)(5) of the Drawings is respectfully requested.

### **CLAIM OBJECTIONS**

Claims 10, 25, 26, 27, 28, and 35 were objected to because of various informalities. Applicant has amended these claims to overcome their respective objections and submits that these claims are in condition for allowance.

### **SECTION 103 REJECTION**

Claims 1-3, 12-19, 25-28, 34-38, and 44-45 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Weiser et al., (U.S. Patent No. 5,265,213). Applicant respectfully traverses the rejection.

#### **Claim 1**

Claim 1 recites:

A method for run-time prediction of a next caller of a shared functional unit, wherein the shared functional unit is operable to be called by two or more callers out of a plurality of callers, the method comprising:

detecting a calling pattern of the plurality of callers of the shared functional unit;

predicting the next caller out of the plurality of callers of the shared functional unit; and

loading state information associated with the next caller out of the plurality of callers;

wherein the shared functional unit and the plurality of callers are operable to execute in parallel on a parallel execution unit.

As Examiner is certainly aware "[T]he deficiencies of the cited references cannot be remedied by the Board's [or the Examiner's] general conclusions about what is 'basic knowledge' or 'common sense' to one of ordinary skill in the art." *In re Zurko*, 258 F.3d 1379, 1385 (Fed. Cir. 2001). "[T]he the Board [or the Examiner] must point to some concrete evidence in the record in support of these findings." *Id.* at 1386 (*emphasis added*). Applicant notes that there is no record that "multiple instructions ... have the same target," as asserted by the Office Action. See p. 4 of the Office Action. Therefore the Official Notice does not meet the requirement set forth by *In re Zurko*, and is thus improper.

Even if the Official Notice were proper, which Applicant maintains it is not, the arguments set forth by the Office Action still do not show that Weiser teaches or suggests the limitations of claim 1. Specifically, nowhere does Weiser teach or suggest a plurality of callers that can call a shared function unit. In contrast, Weiser only teaches a system that "employs logic which allows a branch instruction and its target instruction stored in the branch target buffer to be executed concurrently in the two execution units according to the history data stored in the branch target buffer." See Weiser Abstract. Also, the cited claim 1 of Weiser merely teaches a "branch buffer" that includes a "predicted branch target instruction" and "multiplexer means" which is operable to "direct ... instructions" as indicated by the "predicted branch target instruction" to second execution means. See claim 1 of Weiser.

Thus nowhere do the cited portions of Weiser, or Weiser in general, teach or suggest a plurality of callers that can call a shared functional unit, and instead only teach to predict branch instructions, i.e., of branches to be taken in the future, in a system with two execution units. In contrast, claim 1 is directed to a method that predicts the "next caller of a plurality of callers." Applicant respectfully notes that predicting a future branch operation as taught in Weiser is significantly different from predicting a next caller of a shared functional unit.

Thus the Office Action does not show that all claim limitations are taught or suggested by Weiser, and there is no teaching or suggestion to combine with the allegedly known concepts argued by the Office Action as required for an obviousness rejection. Furthermore, Applicant asserts that the conclusions made by the Office Action

regarding generally known concepts are misleading and used with improper hindsight. Thus, Applicant submits that the present claim 1 is allowable. Claims 16, 26, and 37 include similar limitations as claim 1, and so the above arguments apply with equal force to these claims. Thus, for at least the reasons provided above, Applicant submits that claims 1, 16, 26, and 37 and those claims respectively dependent therefrom, are patentably distinct and non-obvious, and are thus allowable. Therefore removal of the section §103 rejection of claims 1-3, 12-19, 25-28, 34-38, and 44-45 is respectfully requested.

Applicant also asserts that numerous ones of the dependent claims recite further distinctions over the prior art. However, since the independent claims have been shown to be patentably distinct, a further discussion of the dependent claims is not necessary at this time.

#### **ALLOWED MATTER**

Applicant thanks the Examiner for indicating that dependent claims 4-11, 20-24, 29-33, and 39-43 are allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. *See* Office Action at p. 10. However, Applicant has chosen to argue the allowance of the independent claims at this time.

## **CONCLUSION**

Applicant submits the application is in condition for allowance, and an early notice to that effect is requested.

If any extensions of time (under 37 C.F.R. § 1.136) are necessary to prevent the above-referenced application(s) from becoming abandoned, Applicant(s) hereby petition for such extensions. The Commissioner is hereby authorized to charge any fees which may be required or credit any overpayment to Meyertons, Hood, Kivlin, Kowert & Goetzel P.C., Deposit Account No. 50-1505/5150-65801/JCH.

Also filed herewith are the following items:

- ☐ Request for Continued Examination
- ☐ Terminal Disclaimer
- ☐ Power of Attorney By Assignee and Revocation of Previous Powers
- ☐ Notice of Change of Address
- ☒ Information Disclosure Statement and Reference
- ☒ Replacement Sheets (2)

Respectfully submitted,

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